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The rapid diagnosis of infectious diseases in all animals has been the major focus of clinical microbiology for decades. It is particularly important in marine mammals since illness, with cessation of eating, causes rapid dehydration with serious sequelae.

Initial studies indicated that commercial anti-Ig's of a variety of animals were not suitable for use in serological studies with marine mammals. The IgG and IgM of cetaceans and pinnipeds were isolated, antisera produced in rabbits and guinea pigs, and used to develop the single radial immunodiffusion (RID) immunoblot, and ELISA techniques. The base-line level of IgG and IgM in the bottlenose dolphin (*Tursiops truncatus*), the sea otter (*Enhydra lutris*), and the nothern fur seal (*Callorhinus ursinus*) have been determined by RID. Specific antigens and monoclonal antibodies as positive controls for Histoplasma, Blastomyces, Coccidioides, Candida, and Aspergillus have been developed. Specific outermembrane proteins of *Erysipelothrix rhusiopathiae* and surface polysaccharides of *Pasturella multocida* and *Pseudomonas pseudomallei* have been used successfully in an ELISA assay. The potential of all of the above diagnostic tests for infectious diseases in marine mammals will be discussed.

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Immunodiagnostic approaches to diseases in marine mammals.

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